

## Artigo Original

## Quality of life assessment by WHOQOL-BREF in panic disorder patients during treatment

Investigação de qualidade de vida pela WHOQOL-BREF em pacientes com transtorno de pânico durante o tratamento

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## Abstract

**Background:** Panic disorder (PD) patients show more physical and psychological impairment, than the general population. **Objectives:** Our aims are to compare quality of life between PD patients during treatment and healthy subjects and to associate social, demographic and clinical factors with quality of life scores. **Methods:** It is a cross-sectional study with 20 PD patients and 20 healthy controls. Anxiety levels assessment: Beck Anxiety Inventory, Hamilton Anxiety Rating Scale, STAIT – Form Y. Panic severity; Panic Agoraphobia Scale; social and environmental problems and global assessment functioning (Axis IV and V, DSM-IV-TR) and quality of life by WHOQOL-BREF. **Results:** PD patients were 65% female. Mean age =  $37.55 \pm 9.06$ . Quality of life domain scores: physical =  $57.86 \pm 17.56$ ; psychological =  $56.04 \pm 18.31$ ; social =  $56.25 \pm 25.92$ ; and environmental =  $47.03 \pm 16.92$ ; smokers = 20%; BAI =  $23.40 \pm 15$ ; STAI-S =  $43.50 \pm 8.79$ ; STAI-T =  $50.10 \pm 9.19$ ; PAS =  $13.60 \pm 9.40$ . **Discussion:** No significant differences were observed between groups about gender, age, schooling, religion, marital status nor individual income, but family income was significantly higher among controls. All domains of quality of life are significantly impaired among PD patients, compared to healthy controls. Panic disorder compromises well being. Psychosocial problems and high levels of anxiety can also negatively impact quality of life of PD patients.

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## Resumo

**Contexto:** Pacientes com transtorno de pânico (TP) apresentam maior comprometimento físico e psicológico que a população geral. **Objetivos:** Comparar escores de qualidade de vida entre pacientes com TP em tratamento e indivíduos normais. **Métodos:** Trata-se de estudo transversal com 20 portadores de TP e 20 controles normais. Avaliação da ansiedade inclui: Inventário de Ansiedade de Beck, Escala de Ansiedade de Hamilton, Inventário de Estado e Traço Ansioso, Escala de Pânico e Agorafobia; além de avaliação de problemas sociais e ambientais e funcionamento global (eixos IV e V, DSM-IV-TR) e de qualidade de vida pela WHOQOL-BREF. **Resultados:** Dos pacientes com TP, 65% eram do sexo feminino. A média de idade foi de  $37,55 \pm 9,06$  anos. Os escores de qualidade de vida foram: físico =  $57,86 \pm 17,56$ ; psicológico =  $56,04 \pm 18,31$ ; social =  $56,25 \pm 25,92$ ; e ambiental  $47,03 \pm 16,92$ . Tabagistas = 20%. BAI =  $23,40 \pm 15$ ; STAI-S =  $43,50 \pm 8,79$ ; STAI-T =  $50,10 \pm 9,19$ ; PAS =  $13,60 \pm 9,40$ . Não houve diferenças significativas entre os grupos

em relação a sexo, idade, escolaridade, religião, estado civil, nem renda individual, porém a renda familiar do grupo-controle foi significativamente maior. Todos os domínios de qualidade de vida foram bem piores entre os pacientes com TP em tratamento, quando comparados aos controles. **Conclusões:** TP, mesmo em tratamento, compromete a qualidade de vida. Problemas psicossociais e altos níveis de ansiedade podem ter impacto negativo na qualidade de vida dos pacientes com TP.

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**Palavras-chave:** Transtorno de pânico, qualidade de vida, ansiedade, WHOQOL-BREF.

## Introduction

Panic disorder (PD) is a mental disorder with lifetime prevalence rates varying from 1,5%<sup>1</sup> to more than 3%<sup>2</sup> of general population. Women are more susceptible than men to present this disorder (5% against 2%, respectively)<sup>3</sup>.

Retrospective studies show that more than 80% of PD patients correlate stressful life events in the year before the PD diagnostic and many of them believe that such events contribute to the development of the disorder<sup>4,5</sup>. One population study demonstrated that patients with generalized anxiety disorder (GAD), obsessive compulsive disorder (ODC) and PD showed the lower quality of life scores, among all anxiety disorders<sup>6</sup>. This demonstrates that anxiety disorders must be a priority among health care services<sup>6</sup>. On the other hand, anxiety disorders such as PD, worse quality of life in patients with medical co-morbidities, as those with chronic obstructive pulmonary disease<sup>7</sup>. The psychological suffering provoked by PD is higher than that caused by hypertension, *diabetes mellitus*, arthritis or cardiac disease<sup>8</sup>. Severity of PD is correlated to Quality of Well-Being Scale<sup>9</sup> and Sheehan Disability Scale<sup>10</sup>.

Thirty-five percent of the PD patients in general population believe that they have bad physical health and 38% feel they are emotionally compromised<sup>1</sup>. In fact, PD patients show more physical and psychological impairment, than the general population, and than those with social anxiety, suggesting that PD is more related to worse quality of life than does the social anxiety disorder<sup>8</sup>.

A comparative study between PD patients and healthy controls determined that features such as worse schooling, greater neuroticism, major depression comorbidity, and advanced age are the main factors for worsening quality of life evaluated by the SF-36<sup>11</sup>.

Several authors demonstrate that treatment improves quality of life among PD patients<sup>9,12</sup>. On the other hand, one study observed that PD patients treated with Cognitive Behavioral Therapy, even not presenting prominent symptoms of PD nor agoraphobia showed lower self development and worse physical health than controls, demonstrating that reducing symptoms does

not mean improvement of the well being and it is necessary more incisive therapeutic modalities<sup>13</sup>.

The present study aims to compare quality of life of PD patients under treatment with a healthy subject sample, and also to investigate the association between socio-demographic and clinical factors and quality of life of PD patients.

## Method

### 1. Study design and setting

A cross-sectional study of 40 subjects (20 PD patients and 20 healthy controls) was carried out at the Panic and Respiration Laboratory, in the Institute of Psychiatry of the Federal University of Rio de Janeiro (IPUB-UFRJ), Brazil.

### 2. Participants and assessment

All subjects were interviewed by a psychiatrist using the Mini-International Neuropsychiatric Interview version 4.4 - MINI<sup>14</sup>, searching for Axis I diagnoses. Twenty healthy controls were randomly selected, among the list of employers and trainees of a private psychiatric hospital of Rio de Janeiro, they did not meet criteria for any of the Axis I, DSM-IV-TR<sup>15</sup> diagnoses researched by the MINI and were paired to twenty patients, who were under treatment (taking medicine associated or not to psychotherapy) at the Panic and Respiration Laboratory (IPUB-UFRJ) and met the DSM-IV-TR<sup>15</sup> criteria for PD, with or without another psychiatric disorder. Six subjects could not participate of the "mentally healthy control group" since they were diagnosed as sufferers from generalized anxiety disorder ( $n = 4$ ), social phobia ( $n = 2$ ) and or major depressive episode ( $n = 3$ ) and were substituted by another six subjects that were paired to the patients. The "new" diagnosed subjects were instructed to seek for psychiatric treatment at the Federal University of Rio de Janeiro. The panic patients already were on treatment when they were consecutively assessed and selected to participate of this survey according to their returning on the Panic and Respiration Laboratory to continue their treatment. It is important to note that this sample was composed by patients during their treatment, some had mild or residual symptoms, others

had no panic disorder symptoms. They had anxiety aspects assessed by the Beck Anxiety Inventory – BAI<sup>16</sup>, Hamilton Anxiety Rating Scale - HARS<sup>17</sup> and State-Trait Anxiety Inventory – Form Y – STAI<sup>18</sup> while PD overall severity was evaluated by the Panic and Agoraphobia Scale – PAS<sup>19</sup>. Both groups were investigated by the World Health Organization – Quality of Life – brief version – WHOQOL-BREF<sup>20</sup>, to complete the evaluation of quality of life in four domains: physical, psychological, social and environmental. Demographic data were collected by a semi-structured questionnaire created for this survey. Patients were also evaluated by the DSM-IV-TR Axis IV and V (Environmental and Psychosocial Problems and Global Assessment Functioning, respectively).

The “healthy control group” had the following inclusion criteria: 1) to give informed written consent; 2) to have at least 4 years of schooling; 3) to be pair matched in gender and age to a participant of panic disorder group. The exclusion criteria were: 1) to meet diagnostic criteria of any psychiatric disorder according to the MINI evaluation; 2) to have mental retardation. Some subjects presented physical illnesses but we did not exclude them for that. Twenty per cent had systemic arterial hypertension, 15% had dyslipidemia and 5% had *diabetes mellitus*, but all were employed, active and did not have severe limitations in their lives because of those physical problems. On the other hand, we also did not exclude panic patients with physical problems. Although, they referred that physical illnesses were under control.

The “panic disorder group” had the following inclusion criteria: 1) to give informed written consent; 2) to have at least 4 years of schooling; 3) to be between 18 and 60 years old; 4) to meet the diagnostic criteria of panic disorder according to DSM-IV-TR criteria; 5) to be under treatment to panic disorder at the Laboratory of Panic and Respiration (IPUB-UFRJ). The exclusion criteria were: 1) to have another main psychiatric diagnostic not panic disorder; 2) to have mental retardation.

Our local Ethics Committee approved the protocol, which complied with the principles of the Declaration of Helsinki. All patients gave informed written consent.

### 3. Statistical analysis

The HARS (mild anxiety, 18-24; moderate 25-29; severe > 29), BAI (minimal or mild anxiety, 0-15; moderate, 16-25, severe, 26-63), STAI (low anxiety, 20-39; moderate, 40-59; high, 60-80) scales, and Axis IV (present, not present) and Axis V (71-100, good; 51-70, moderate; 00-50, poor) questionnaires were treated as categorical variables, generating absolute and relative frequencies. BAI, STAI and PAS were also treated as continuous variables and had expressed means and standard deviations (SD). The four domains of the WHOQOL-BREF, were analyzed separately, as continuous variables. Student's t-test was used for the analysis of continuous variables.

Descriptive analysis established 95% as the confidence interval. Chi-square and Kruskal-Wallis test were used to compare two groups. The SPSS 12.0 program was used to calculate the four quality of life domain scores. Epi-Info 6.0 was used to analyze the remaining data.

## Results

The social and demographic data are described at table 1. No significant differences were observed between groups about gender, age, schooling, religion, marital status nor individual income, but family income was significantly higher among controls. As we can see at table 2, all domains of quality of life are significantly impaired among PD patients under treatment, compared to controls.

**Table 1.** Sociodemographic data

Variable	Panic disorder (n = 20)	Controls (n = 20)	p value
<b>Gender</b>			
Male	7 (35%)	8 (40%)	*0.74
Female	13 (65%)	12 (60%)	
<b>Age (years)</b>			
Mean (SD)	37.55 (9.06)	37.80 (10.28)	*0.50 **0.99
18-29	4 (20%)	7 (35%)	
30-39	7 (35%)	5 (25%)	
40-49	8 (40%)	8 (40%)	
> 49	1 (5%)	0 (0%)	
<b>Schooling (years)</b>			
Mean (SD)	12.10 (3.61)	11.95 (3.39)	*0.69
4 – 8	2 (10%)	4 (20%)	
9 – 11	10 (50%)	9 (45%)	
> 11	8 (40%)	7 (35%)	
<b>Religion</b>			
Catholic	14 (70%)	15 (75%)	*0.70
Evangelic	3 (15%)	2 (10%)	
Not religious	2 (10%)	3 (15%)	
Others	1 (5%)	0 (0%)	
<b>Marital status</b>			
Single	8 (40%)	7 (35%)	*0.79
Married	9 (45%)	11 (55%)	
Divorced or widowed	3 (15%)	2 (10%)	
<b>Individual income (\$ US)***</b>			
Mean (SD)	416.08 (341.59)	681.68 (658.34)	**0.22
<b>Family Income (\$ US)***</b>			
Mean (SD)	807.16 (690.170)	1219 (1065.57)	**0.049

\* $\chi^2$  test; \*\* Kruskal-Wallis test; \*\*\* on 08.02.06 – 1 US\$ = R\$ 2,192.

**Table 2.** Quality of life domains

WHOQOL-BREF domains	PD patients Mean (SD)	Controls Mean (SD)	p value
Physical	57.86 (17.56)	78.75 (10.71)	*0.0001
Psychological	56.04 (18.31)	73.54 (10.32)	*0.0012
Social	56.25 (25.92)	73.75 (16.94)	*0.0147
Environmental	47.03 (16.92)	56.72 (12.96)	*0.08 **0.049

\* Kruskal-Wallis test; \*\* ANOVA test.

WHOQOL-BREF = World Health Organization – Quality of Life – brief version (Fleck et al., 2000).

Most of the PD patients (65%) said they had physical illnesses. Three patients (15%) had systemic arterial hypertension, 15% related hypothyroidism, 10% referred dermatological illness, 10% had asthma, 10% headaches, 5% gastritis and 5% hepatitis C. Although, all PD patients declared that those physical problems were under control, they were not presenting symptoms of them and were not bothered with those physical diseases. Half of the patients had, at least, one psychiatric co-morbidity. Twenty-five percent had co-morbid major depression, generalized anxiety disorder was identified in 15% of PD patients, dysthymia in 10%, and 5% had social phobia. The mean age of onset of PD was 31 years old (SD = 8.278). At the moment the patients were assessed 10% were treating with tricycles antidepressants (TCA) as the only medicine, 20% were taking only SSRI, 40% were treating with TCA plus benzodiazepines (BZD), 10% SSRI plus BZD and 20% were on another regimen, including, for example, valproic acid. Twenty percent were on cognitive behavioral therapy, 15% were on psychoanalysis and 65% had never done any kind of psychotherapy.

Analysis of the correlation of each of the four domains of WHOQOL-BREF questionnaire with clinical features, anxiety measures, Axis IV and V results (from DSM-IV-TR) were shown on table 3 (analysis made with Kruskal-Wallis test). Smoking and higher state and trait anxiety measures were associated to physical quality of life impairment. Agoraphobia, higher BAI scores, lower global functioning scores and psychosocial problems (such as problems with intimate relationships, social environment, working problems and difficult to access health care services) were associated with worse psychological quality of life. Higher HARS scores, poorer global functioning and, as we expected, psychosocial problems (specially with intimate relationships, social environment, work, home, finances and access to health care services) were correlated with lower scores in the social quality of life domain. Environmental quality of life impairment is associated with smoking, lower global functioning assessment scores, higher state anxiety measures, environmental problems and also problems with finances and access to health care services.

## Discussion

Information about quality of life may be used to estimate the impact of different disorders in the well being and

global functioning of people<sup>21</sup>, and may also be used to evaluate different therapeutic modalities, outcome and response to treatment<sup>10</sup>.

The present study found that the diagnostic of PD is a factor significantly associated with worse scores in each of the four domains of quality of life evaluated by the WHOQOL-BREF questionnaire, when compared to controls. The significant difference in the family income between the two groups does not explain the worse scores of PD patients. The correlation between the family income and each quality of life domain did not detect significant association between them. No other demographical data was related to worse quality of life in our study, although, lower schooling and advanced age<sup>11</sup> and also lower social class and being single<sup>22</sup> were already described as factors related with poorer quality of life scores among PD patients.

Our PD sample is composed by patients that are under treatment. Objective evaluation of PD patients by PAS analysis showed low (19) total scores of  $\pm 13$ . None of the PD patients reported panic attacks in the last two weeks before the assessment. These data indicate that the severity of panic symptoms was under control even when self-report anxiety measures (BAI, STAI – Form Y) demonstrated that patients still generally felt, moderately to severely anxious. This may be secondary to anticipatory anxiety or agoraphobic symptoms. A cross-sectional study reported that PD patients presented worse quality of life scores than those with rare PA, and these had worse scores than controls<sup>23</sup>.

Recent literature indicates that higher severity of panic attacks and agoraphobia, prolonged PD course, major depression co-morbidity, problems in the primary care group, high interpersonal sensitivity, higher levels of neuroticism are some of the factors correlated with worse outcome among PD patients (11,22). Patients with severe agoraphobia have an unfavorable outcome of PD, with prolonged course, worse symptoms and major social disability than patients with mild or no phobic symptoms<sup>24</sup>. Phobic avoidance leads to a poorer prognosis and quality of life impairment<sup>25,26</sup>. Agoraphobia may represent a more severe and morbid picture or a group of symptoms less responsive to treatment<sup>27</sup>. The greater disability associated with agoraphobia can lead PD to a chronic status. Most of the studies did not evaluate panic symptoms separately from agoraphobia<sup>27</sup>. Although, a recent study reported that PD patients in early phases



**Table 3.** Clinical and psychosocial features of panic disorder (PD) patients and correlation with quality of life domains

	N (%)	Physical domain (p value)	Psychological domain (p value)	Social domain (p value)	Environmental domain (p value)
<b>Smoking</b>		*0.02	0.49	0.18	*0.02
Yes	04 (20)				
No	13 (65)				
In the past years	03 (15)				
<b>Medical comorbidities</b>	13 (65)	0.07	0.09	0.09	0.09
<b>Psychiatric comorbidities</b>	10 (50)	0.36	0.18	0.42	0.17
Age of PD onset (years)		0.68	0.76	0.50	0.55
< 30	9 (45)				
30-39	8 (40)				
> 39	3 (15)				
<b>Agoraphobia</b>	08 (40)	0.07	*0.03	0.15	0.09
<b>STAI-S (Spielberger state anxiety)</b>		*0.02	0.21	0.13	*0.02
Mean (SD)	43.50 (8.79)				
High	01 (05)				
Moderate	16 (80)				
Low	03 (15)				
<b>STAI-T (Spielberger Trait Anxiety)</b>		*0.04	0.25	0.19	0.06
Mean (SD)	50.10 (9.19)				
High	02 (10)				
Moderate	16 (80)				
Low	02 (10)				
<b>BAI (Beck Anxiety Inventory)</b>		0.07	*0.03	0.13	0.16
Mean (SD)	23.40 (15.0)				
Severe	08 (40)				
Moderate	05 (25)				
Mild	07 (35)				
<b>HARS (Hamilton Anxiety Rating Scale)</b>		0.66	0.10	*0.03	0.13
Low	8 (40)				
Moderate	8 (40)				
Severe	4 (20)				
<b>GAF (Global Functioning)</b>		0.18	*0.03	*0.02	*0.03
Mean (SD and T value)	66.95 (10.52 & 28.47)				
Good	11 (55)				
Moderate	07 (35)				
Poor	02 (10)				
<b>Primary Care Group</b>	04 (20%)	0.13	*0.01	*0.01	0.10
<b>Social Environment</b>	05 (25%)	*0.05	*0.004	*0.02	*0.01
<b>Occupational Problems</b>	09 (45%)	0.94	*0.02	*0.01	0.22
<b>Problems with the access to health care services</b>	02 (10%)	0.10	*0.03	*0.02	*0.02
<b>Home problems</b>	06 (30%)	0.62	0.12	*0.04	0.06
<b>Financial problems</b>	13 (65%)	0.20	0.13	*0.02	*0.05

- p values were obtained performing the Kruskal-Wallis test

\* p < 0.05 – significant

of the illness have poorer quality of life than healthy controls independently of co-morbid agoraphobia. PD patients with agoraphobia had lower quality of life scores at mental health domain, but not in physical domain, demonstrating that agoraphobia is important to poor mental health but not physical functioning<sup>28</sup>.

Quality of life among PD patients is at the same level as somatic diseases<sup>9,11</sup>. Nevertheless, chronic medical illness was not a risk factor for worse functioning in

panic patients<sup>11</sup>. PD has negative effects in the physical and psychological functioning of patients compared to healthy controls. PD patients have worse psychological health than those with medical chronic disease<sup>29</sup>. The physical and psychological health levels of PD patients are comparable to those of depressed patients<sup>29</sup>.

Poor social support was one of the predictors of worse quality of life<sup>23</sup>. Problems in the primary care group are correlated with worse outcome among PD

patients<sup>22</sup>. In our study psychosocial problems such as: problems with intimate relationships, with social environment, with access to health care services, problems with work and finances were related with psychological and social compromise.

The size of the sample is a limitation of our study as well as the absence of a control group of PD patients without treatment. In our analysis we did not specify the impact of co-morbid major depression alone and counted all psychiatric co-morbidities together. Another limitation is the fact that our sample is formed by patients of a Research Center rather than a sample taken from the general population. But the present study is an important description, statistically significant, showing that PD diagnosis, even with PA under control, correlates with lower scores of quality of life.

Patients under treatment to PD presented worse quality of life scores, compared to healthy controls. High levels of anxiety (state and trait), psychosocial and environmental problems are also associated with quality of life impairment. Agoraphobia is related specially with impairment on psychological quality of life domain. Demographic data did not correlate significantly to lower quality of life scores. In our sample the control of PA was not sufficient to improve quality of life among PD patients.

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